

The following claims are presented for examination:

Claims 1-6. (canceled)

Claim 7. (currently amended) An apparatus comprising:

a bandgap reference voltage generator having an output terminal and a bias terminal;

an operational amplifier having a positive input terminal, a negative input terminal, and an output terminal, wherein the negative input terminal of said operational amplifier is electrically connected directly to the output terminal of said bandgap reference voltage generator without intervening elements;

a transistor having a gate, a source, and a drain, wherein the gate of said transistor is electrically connected directly to the output of said operational amplifier without intervening elements, and wherein the drain of said transistor is electrically connected directly to the positive input terminal of said operational amplifier without intervening elements;

a voltage divider having a input terminal, an output terminal, and a common terminal, wherein said input terminal of said voltage divider is electrically connected directly to the positive input terminal of said operational amplifier without intervening elements;

a startup network having a first positive supply terminal and an output terminal, wherein said output terminal of said startup network is electrically connected directly to said input terminal of said voltage divider without intervening elements; and

a self-biasing network having a second positive supply terminal, a common terminal, and an output terminal, wherein said second positive supply terminal of said self-biasing network is electrically connected directly to said output terminal of said startup network without intervening elements, and wherein said common terminal of said self-biasing network is electrically connected directly to said common terminal of said voltage divider without intervening elements, and further wherein said output terminal of said self-biasing network is electrically connected directly to the bias terminal of said bandgap voltage reference generator without intervening elements.

Claim 8. (original) The apparatus of claim 7 wherein said transistor is a PMOS transistor.

Claims 9-11. (canceled)

Claim 12. (Previously Presented) The apparatus of claim 7 wherein said operational amplifier also comprises a bias terminal, and wherein said output terminal of said self-biasing network is electrically connected directly to said bias terminal of said operational amplifier without intervening elements.

Claim 13. (Previously Presented) The apparatus of claim 7 wherein said bandgap reference voltage generator further comprises a positive supply terminal and a common terminal, and wherein said operational amplifier also comprises a positive supply terminal and a common terminal, and wherein said positive supply terminal of said bandgap reference voltage generator is electrically connected directly to said positive supply terminal of said operational amplifier without intervening elements, and said common terminal of said bandgap reference voltage generator is electrically connected directly to said common terminal of said operational amplifier without intervening elements.

Claim 14. (Previously Presented) The apparatus of claim 13 wherein said common terminal of said voltage divider is electrically connected directly to said common terminal of said operational amplifier without intervening elements.

Claim 15. (Previously Presented) The apparatus of claim 13 wherein said positive supply terminal of said startup network is electrically connected directly to said positive supply terminal of said operational amplifier without intervening elements.

Claim 16. (Previously Presented) The apparatus of claim 13 wherein said source terminal of said transistor is electrically connected directly to said positive supply terminal of said operational amplifier without intervening elements.

Claim 17. (Previously Presented) The apparatus of claim 14 wherein said bandgap reference voltage generator further comprises a first capacitor having a first terminal and a second terminal, wherein:

said first terminal of said first capacitor is electrically connected directly to said output terminal of said bandgap reference voltage generator without intervening elements; and

said second terminal of said first capacitor is electrically connected directly to said common terminal of said bandgap reference voltage generator without intervening elements.

Claim 18. (Previously Presented) The apparatus of claim 17 wherein said operational amplifier further comprises a second capacitor having a first terminal and a second terminal, wherein:

said first terminal of said second capacitor is electrically connected directly to said negative input terminal of said operational amplifier without intervening elements; and

said second terminal of said second capacitor is electrically connected directly to said common terminal of said operational amplifier without intervening elements.

Claim 19. (Previously Presented) The apparatus of claim 18 wherein said voltage divider further comprises a third capacitor having a first terminal and a second terminal, wherein:

said first terminal of said third capacitor is electrically connected directly to said output terminal of said voltage divider without intervening elements; and

said second terminal of said third capacitor is electrically connected directly to said common terminal of said voltage divider without intervening elements.

Claim 20. (Previously Presented) The apparatus of claim 19 wherein said self-biasing network further comprises a fourth capacitor having a first terminal and a second terminal, wherein:

said first terminal of said fourth capacitor is electrically connected directly to said output terminal of said self-biasing network without intervening elements; and

said second terminal of said fourth capacitor is electrically connected directly to said common terminal of said self-biasing network without intervening elements.

Claim 21. (New) An apparatus comprising:
a bandgap reference voltage generator having an output terminal;
an operational amplifier having a positive input terminal, a negative input terminal, a bias terminal, and an output terminal, wherein the negative input terminal of said operational amplifier is electrically connected directly to the output terminal of said bandgap reference voltage generator without intervening elements;

a transistor having a gate, a source, and a drain, wherein the gate of said transistor is electrically connected directly to the output of said operational amplifier without intervening elements, and wherein the drain of said transistor is electrically connected directly to the positive input terminal of said operational amplifier without intervening elements;

a voltage divider having a input terminal, an output terminal, and a common terminal, wherein said input terminal of said voltage divider is electrically connected directly to the positive input terminal of said operational amplifier without intervening elements;

a startup network having a first positive supply terminal and an output terminal, wherein said output terminal of said startup network is electrically connected directly to said input terminal of said voltage divider without intervening elements; and

a self-biasing network having a second positive supply terminal, a common terminal, and an output terminal, wherein said second positive supply terminal of said self-biasing network is electrically connected directly to said output terminal of said startup network without intervening elements, and wherein said common terminal of said self-biasing network is electrically connected directly to said common terminal of said voltage divider without intervening elements, and further wherein said output terminal of said self-biasing network is electrically connected directly to said bias terminal of said operational amplifier without intervening elements.

Claim 22. (New) The apparatus of claim 21 wherein said bandgap reference voltage generator further comprises a positive supply terminal and a common terminal, and wherein said operational amplifier also comprises a positive supply terminal and a common terminal, and wherein said positive supply terminal of said bandgap reference voltage generator is electrically connected directly to said positive supply terminal of said operational amplifier without intervening elements, and said common terminal of said bandgap reference voltage generator is electrically connected directly to said common terminal of said operational amplifier without intervening elements.

Claim 23. (New) The apparatus of claim 22 wherein said positive supply terminal of said startup network is electrically connected directly to said positive supply terminal of said operational amplifier without intervening elements.

Claim 24. (New) The apparatus of claim 22 wherein said source terminal of said transistor is electrically connected directly to said positive supply terminal of said operational amplifier without intervening elements.

Claim 25. (New) The apparatus of claim 22 wherein said common terminal of said voltage divider is electrically connected directly to said common terminal of said operational amplifier without intervening elements.

Claim 26. (New) The apparatus of claim 25 wherein said bandgap reference voltage generator further comprises a first capacitor having a first terminal and a second terminal, wherein:

said first terminal of said first capacitor is electrically connected directly to said output terminal of said bandgap reference voltage generator without intervening elements; and

said second terminal of said first capacitor is electrically connected directly to said common terminal of said bandgap reference voltage generator without intervening elements.

Claim 27. (New) The apparatus of claim 26 wherein said operational amplifier further comprises a second capacitor having a first terminal and a second terminal, wherein:

said first terminal of said second capacitor is electrically connected directly to said negative input terminal of said operational amplifier without intervening elements; and

said second terminal of said second capacitor is electrically connected directly to said common terminal of said operational amplifier without intervening elements.

Claim 28. (New) The apparatus of claim 27 wherein said voltage divider further comprises a third capacitor having a first terminal and a second terminal, wherein:

said first terminal of said third capacitor is electrically connected directly to said output terminal of said voltage divider without intervening elements; and

said second terminal of said third capacitor is electrically connected directly to said common terminal of said voltage divider without intervening elements.

Claim 29. (New) The apparatus of claim 28 wherein said self-biasing network further comprises a fourth capacitor having a first terminal and a second terminal, wherein:

said first terminal of said fourth capacitor is electrically connected directly to said output terminal of said self-biasing network without intervening elements; and

said second terminal of said fourth capacitor is electrically connected directly to said common terminal of said self-biasing network without intervening elements.